

**5 years after the IPY: perspectives of International
Science Initiatives in the Russian Arctic**

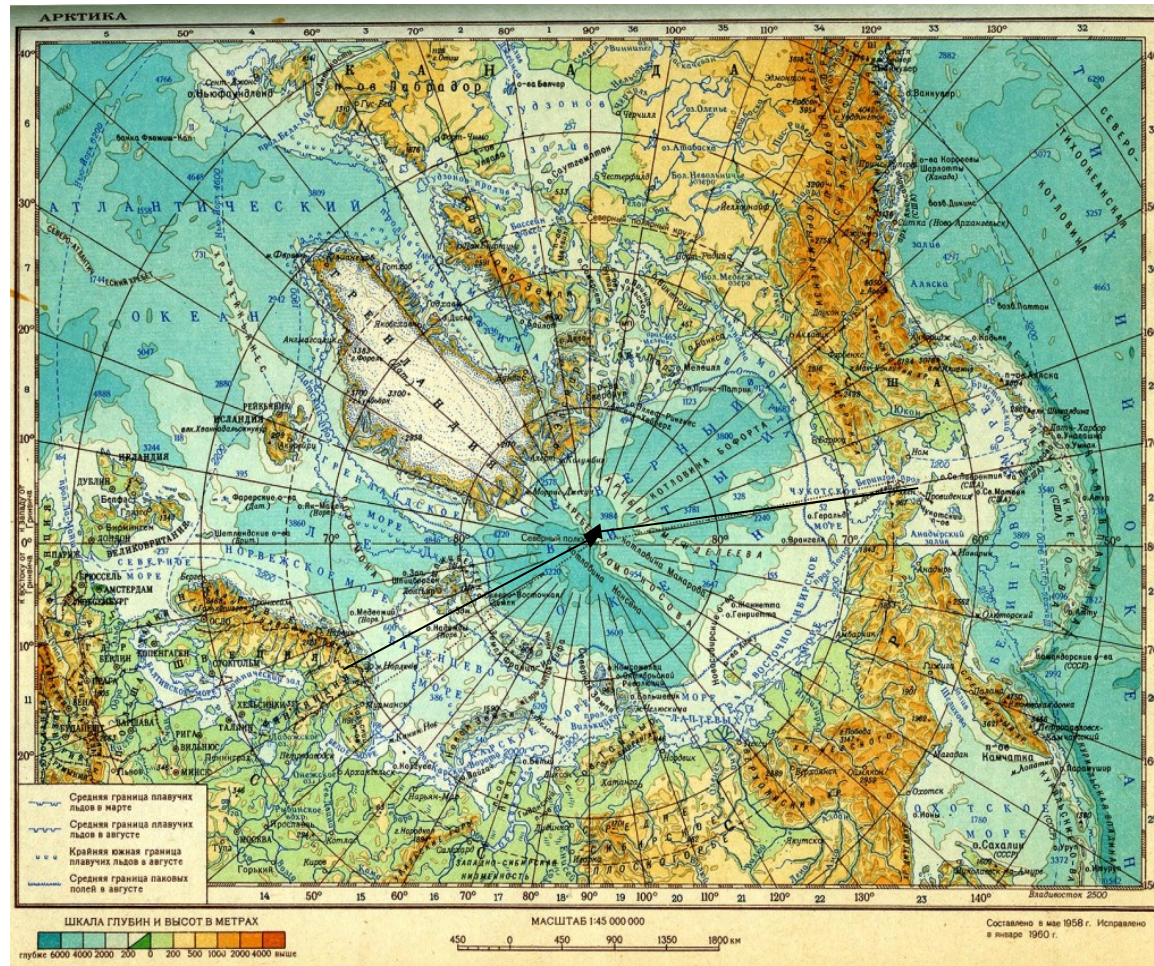
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The trends and new priorities of government policy in Russian Arctic after IPY

ASSW-ISIRA, April 7 2014

The trends of government policy in Russian Arctic: 1st document



The Basis of state policy of the Russian Federation in the Arctic for the period up to 2020 and further perspective" (2008).

- ... Section 7 "Priorities":
- international cooperation;
 - development of scientific research;
 - increasing participation in international forums and organizations

The trends of government policy in Russian Arctic: 2nd document



The concept of development of Northern sea route (NSR) for the period up to 2015

- 5 icebreakers (including 2 nuclear) and 25 of the courts ice category;
- the development of the Arctic hydrography and hydrometeorology;
- restore the network of polar hydrometeorological stations;
- the expansion of the network of nature protected areas along the NSR.

April 7 2014

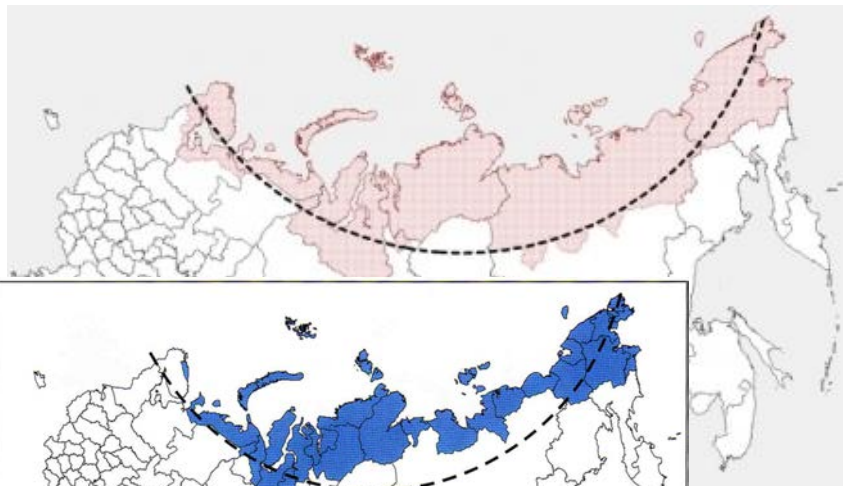
The trends of government policy in Russian Arctic: 3rd document



«Strategy of development of Arctic zone of the Russian Federation and national security in the period up to 2020» (2013)

- the development of science and technologies;
- ensuring environmental safety; development of a national system for monitoring of the state of environmental pollution;
- state support of traditional land use of the indigenous peoples of the Arctic;
- international scientific cooperation in the Russian Arctic.

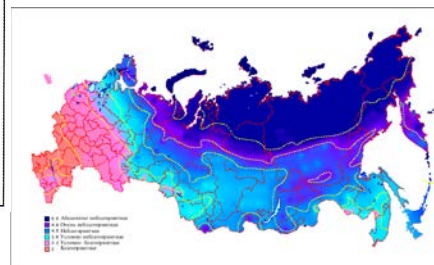
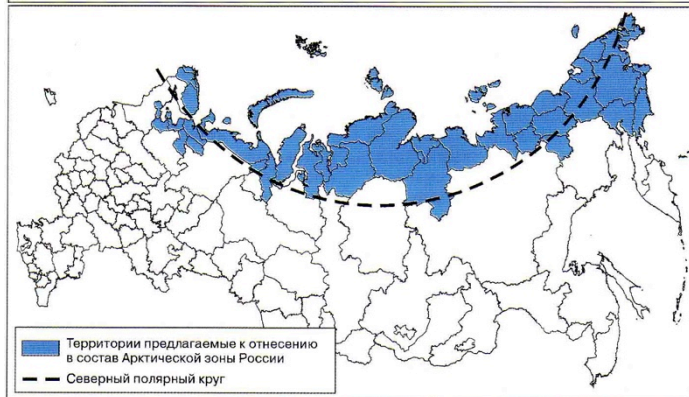
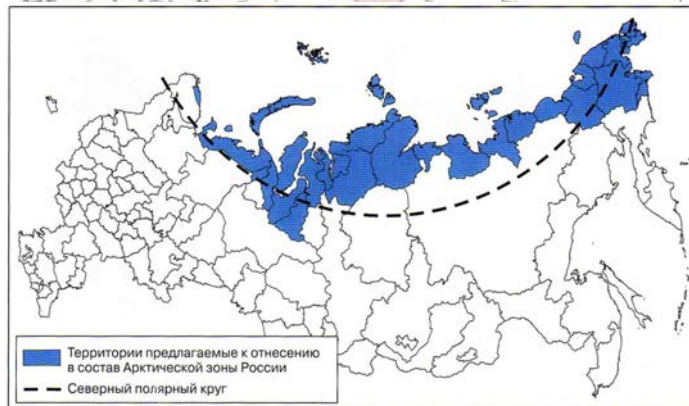
The trends of government policy in Russian Arctic : 4th documents



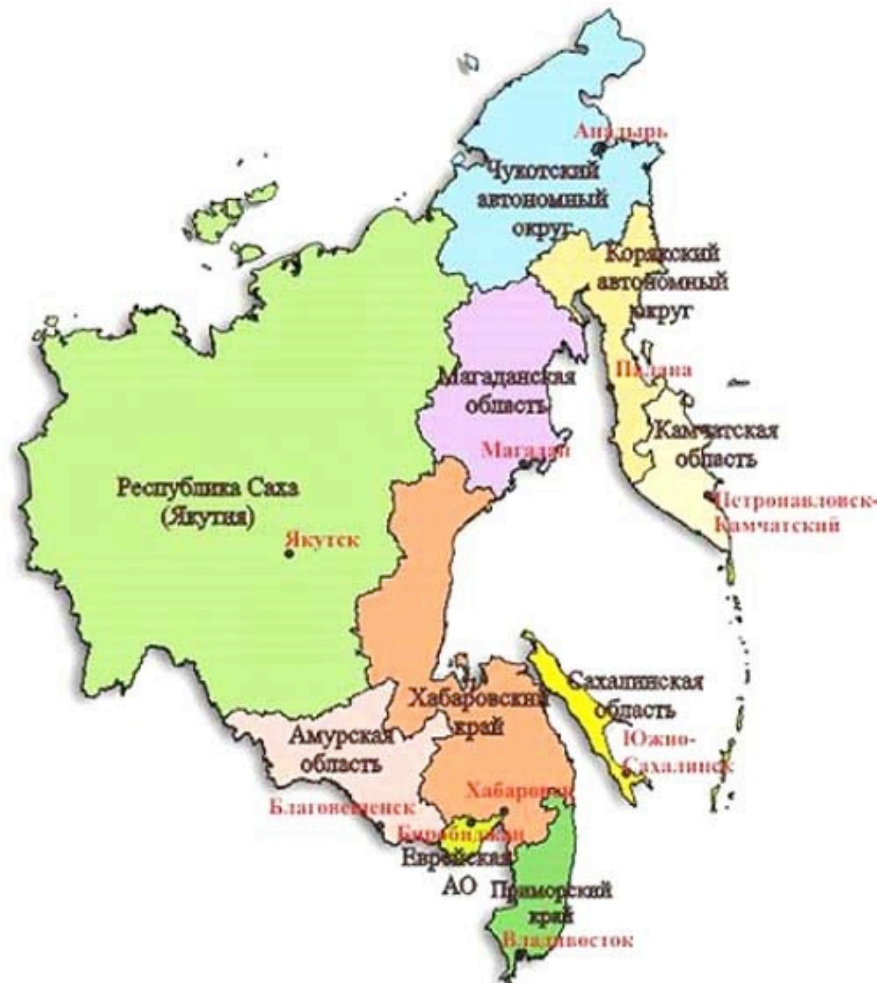
The state program
«Socio-economic the
development of the Arctic zone
of Russian Federation for the period
up to 2020» (2013)

1 793 billion rubles

- environmental security and monitoring;
- scientific-technical basis for development;
- fundamental research;
- international cooperation.



The trends of government policy in Russian Arctic: 5th documents



Program development of Eastern Siberia and the Far East on 2014-2025 years (2013): New estimates, new priorities and new Solutions:

- interests of indigenous peoples;
- demography, depopulation;
- industrial development;
- protection and environmental monitoring, (hydrometeorological stations and protected areas);
- scientific support of the process of regional development (**greetings from U.S. laws «On U.S. policy in the Arctic research» 1984 and «About the new US policy in the Arctic region» 1994).**

The trends of government policy in Russian Arctic: 6th document



The project of federal law «About Arctic zone of Russian Federation», 2013:

- the border of the Arctic in Russia;
- special regime of industrial activities;
- the development of transport; social guarantees;
- the development of scientific research;
- international co-operation.

The trends of government policy in Russian Arctic: 7th document

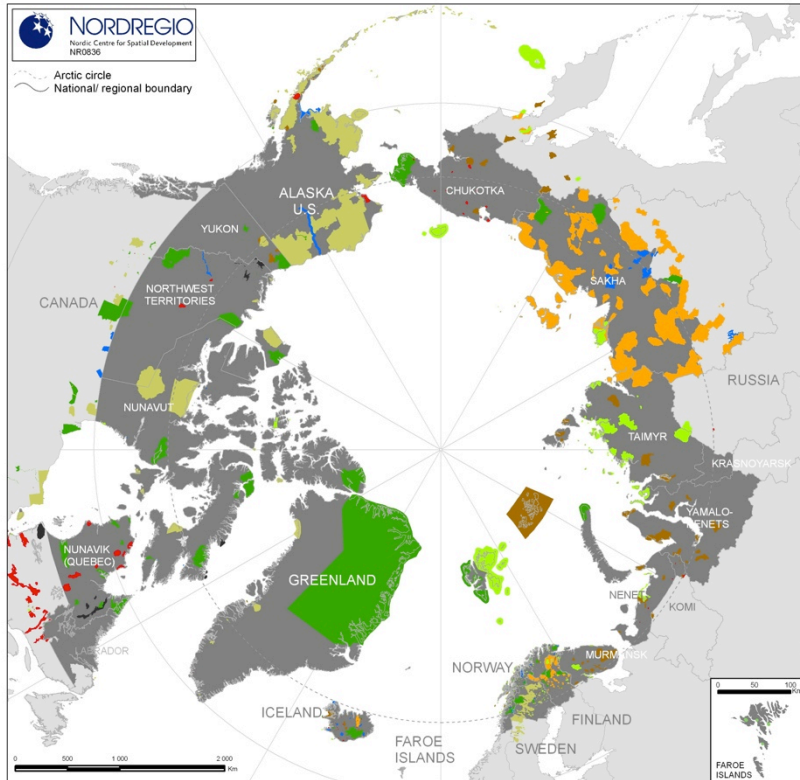


The program of ecological cleaning of the Arctic

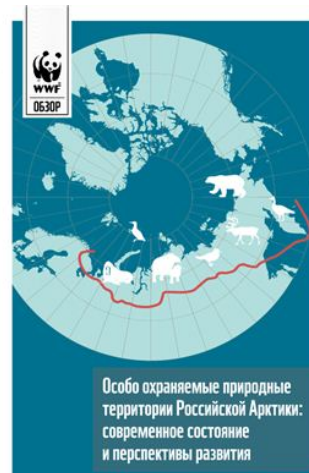
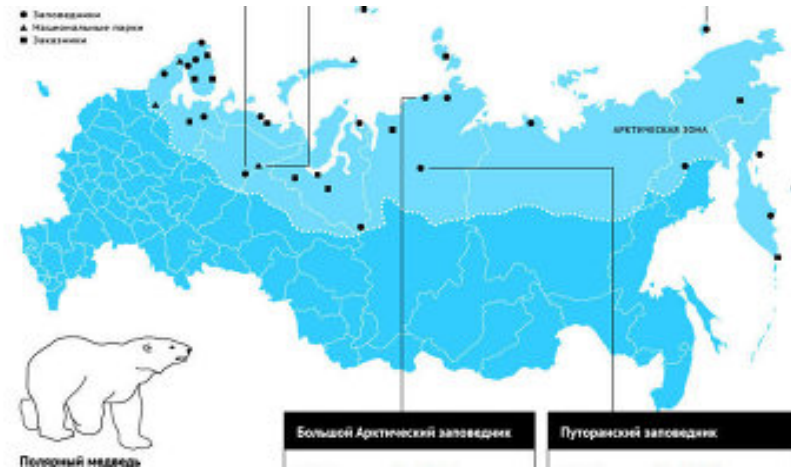
- the federal budget plan to 2015 **21 billion rubels**
- the participation of Russian Geographical Society;
- regional programs (Yamal, Arkhangelsk)

The trends of government policy in Russian Arctic:

the establishment of a special mode of managing and creating new reserves



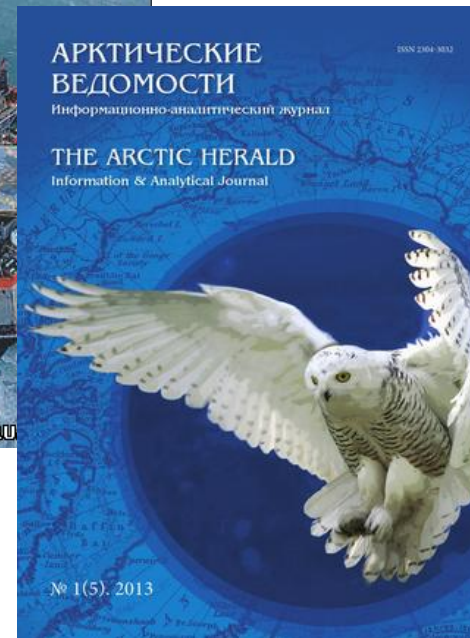
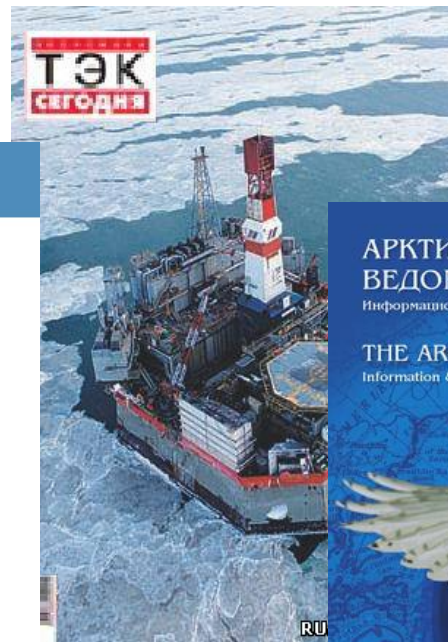
The questions of integration of the Russian reserves in the pan-Arctic network



V.V. Putin in Salekhard in September 2013 promised to expand the network of Arctic nature protected areas



The trends of government policy in Russian Arctic: about 10 new magazines on arctic topic

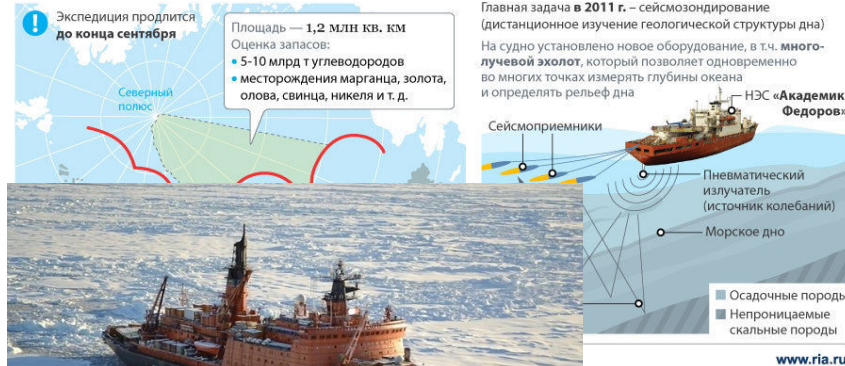


The trends of government policy in Russian Arctic: support of expedition activities (>national level)

Новая экспедиция по уточнению границ шельфа России в Арктике

Научно-экспедиционное судно «Академик Федоров» вновь отправилось в Арктику для изучения океанического дна

Согласно Конвенции ООН по морскому праву, страны могут претендовать на участки морского дна за пределами 200-мильной экономической зоны, если докажут, что их континентальный шельф геологически связан с этими участками

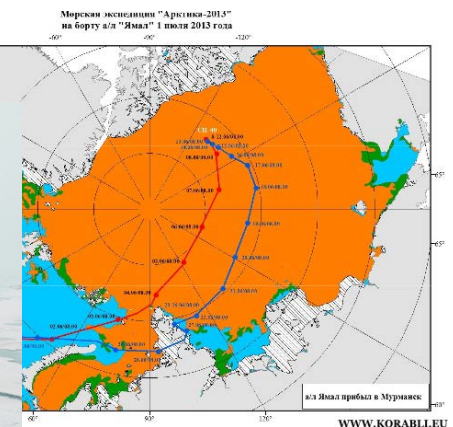


2013 - Arctic expedition «Clean shore»

2013 - Arctic expedition to the “Yamal” nuclear icebreaker

2013 - the expedition of the Russian geographical society: «Arctic floating University», etc.

High-latitude marine expedition «Arctic-2012» and a polar station «North pole-40»





The trends of government policy in Russian Arctic: the formation of a network of rescue services of the Ministry for emergency situations



The trends of government policy in Russian Arctic:

restore the network of weather stations and satellite monitoring

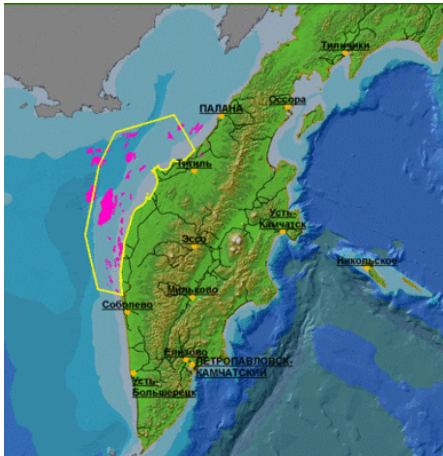


Tasks –

- (1) three times to increase the number of ground-based weather stations;
- (2) to resume work space weather systems (satellites «Meteor», «Molniya», «Electro»)

The widening of international co-operation on arctic resources extraction:

evaluation, technology, standards, expertise of projects



Joint projects for gas-oil deposits exploration on Arctic shelf

The invitation of transcontinental and national companies, credit organizations to arctic projects in Russia – more participants of scientific studies and expertise



«Arctech Helsinki Shipyard Oy» received \$200 mln for 2 ice-brokers

The anthropogenic activities in Russian Arctic: **North Sea Route, shelf and terrestrial gas-oil exploration, atomic fleet, new roads, polar fishery, tourism**



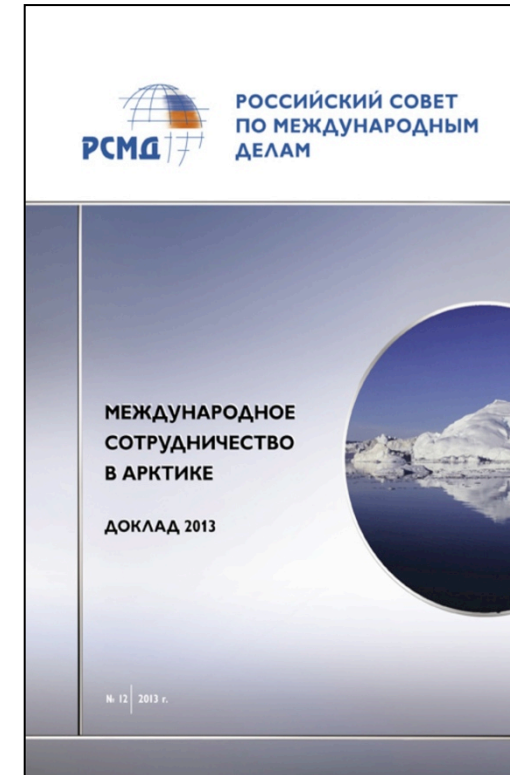
ASSW-ISIRA, April 7 2014

Roadmap for international cooperation in the Arctic (the Russian Council on international affairs)

The roadmap - is a document on cooperation of Russia with foreign states and international organizations on relevant policy issues in the Arctic on 2012-2018's.

For the purpose of promoting the interests of the country through effective international cooperation in the region. The road map includes various aspects of international cooperation in the Arctic region:

the legal, institutional,
natural resources,
transport,
environmental,
military,
the scientific research.



Ежегодный доклад, 2013

The perspectives of international co-operation on nature conservation in Russian Arctic

1. The including of tundra ecosystems in Post-Kyoto documents (agreements) – possibility for regional and national “carbon-market” (**mechanism of protection**)
2. New EU and USA “green-standards” for economical projects in Russian Arctic (**mechanism of prevention**)
3. Introduction of new mechanisms of the “green economy” in the arctic projects (**mechanism of economic stimulation**)
4. The development of nature protected areas network in Russian Arctic (**mechanism of adaptation to joint influence of nature and anthropogenic factors**)

Examples of contemporary international scientific initiatives and international co-operation in the Russian Arctic

Kola branch of Geophysical survey of RAS

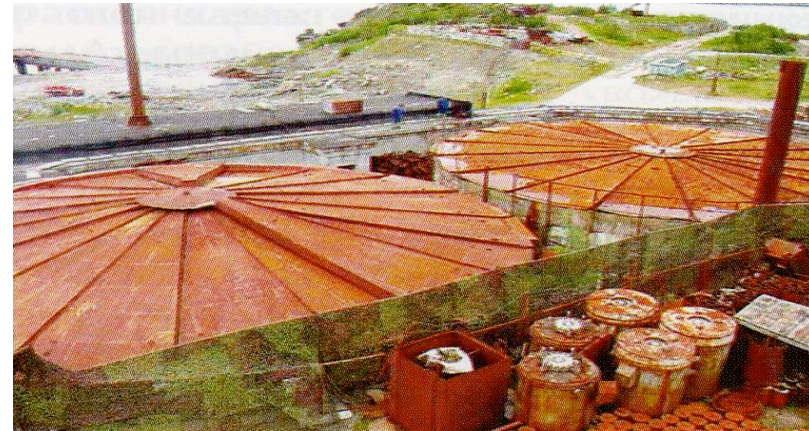
Andrey_V_Fedorov@inbox.ru

Agreement on Scientific Cooperation between
NORSAR Kjeller, Norway and Kola Branch of
the Geophysical Survey of Russian Academy of
Sciences, Apatity, Russian Federation:

1. Project "Cooperative seismological studies on Spitsbergen" (modernization of two stations)
2. Russia-Norway Grant of Russian Foundation of Basic Research "Seismological research related to geophysical processes in the European Arctic", 2014-2016

Mining Institute of the Kola Science Center of the Russian Academy of Sciences www.goikolasc.ru , Apatity

1. « Safety Assessment of Spent Nuclear Fuel (SNF) in the Kola Peninsula» (*funded by the Norwegian Government; University of Oslo*)
2. “EnviMine- developing environmental and geodynamical safety related to mine closure in the Barents region”. *Project is implemented within the framework of Kolarctic ENPI CBC program (2007-2013) – Russia, Finland and Sweden (funded of Ministry of Trade and Economics of Finland)*



Blocks of SNF dry storage, Andreyeva Bay



The exploratory well of underground waters in the Malaya Belaya

Institute of Water and Ecology Problems, Far Eastern Branch, Russian Academy of Science, Khabarovsk

1. Bilateral Russia-Japan project “The human activities in north-east Asia and its impact on biological productivity of north part of Pacific ocean”, 2009 (*funded of Research Institute for Humanity and Nature (RIHN, Kyoto, Japan)*).
2. Amur-Okhotsk Consortium (*co-operation with Institute of Low Temperature Science, Hokkaido University, Sapporo, Japan, last activities - the joint expedition along the Amur river, 2012*)



Institute of biology Karelian Research Centre Russian Academy of Sciences, Petrozavodsk

1. Cooperation agreement between the University of Tromso and Institute of Biology Karelian Research Centre Russian Academy of Sciences
<http://www.mare-incognitum.no/index.php/spitseco>
2. Project “Timing of ecological processes in Spitsbergen fjords” SpitsEco in program “Cooperation on polar research between Norway-USA in the Arctic, between Norway-Russia at Svalbard (POLRES) the Research Council of Norway” (*University Centre on Svalbard*). 2014-2015
3. Project “Development and exchange of competence for sound environmental management of the Barents Sea” (*Financial support: Barents Secretariat, ARCTOS Research Net*)
4. Project “Polar cod lipid metabolism and distribution by polycyclic aromatic hydrocarbons (POLARISATION)” <http://site.uit.no/polarisation/> 2014- 2015
5. Project “The Statoil Ice-Edge Project Ecological and ecotoxicological studies of the ice edge ecosystems” (*Project owner: University of Tromso, University Centre on Svalbard, Norwegian Polar Institute*)
6. Cooperation agreement between Finnish-Russian Working Group on Nature Conservation and Institute of Biology of Karelian Research Centre Russian Academy of Sciences “Freshwater pearl mussel in salmon rivers of Fennoscandia: state-of-the-art assessment and conservation options” (*University of Jyvaskyla, Finland*)
7. Project «Establishing the cross-border cooperation to safeguard the declining wild forest reindeer population», 2014-2015 *Finnish Game and Fisheries Research Institute (FGFRI)*

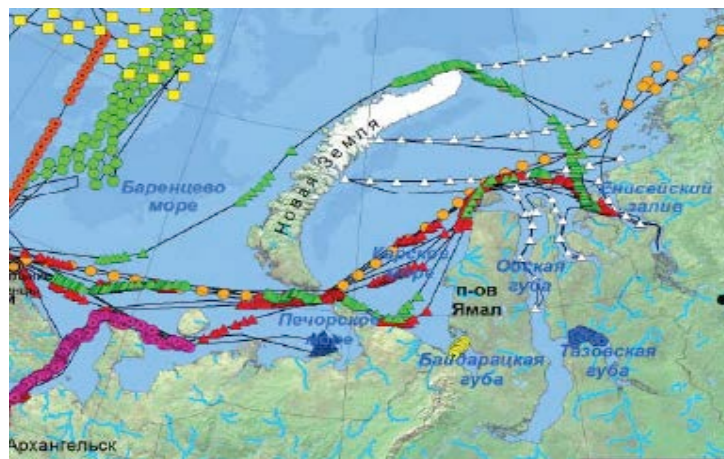
Polar Geophysical Institute RAS, <http://pgi.dyndns.info/>, Apatity

1. Agreement on Science and Technology Cooperation in Arctic and North Research between the Ministry of Science and Technology of the Russian Federation and The Research Council of Norway
2. The grant of EU “Svalbard Integrated Observing System-Preliminary Phase (SIOS-PP)”, 2010-2014 (*more 20 institutes from Scandinavian country, Russia, Japan and China*).
3. Project “European Risk from Geomagnetically Induced Currents”, 2011-2014 (*institutes from Scandinavian country, Russia, Germany, UK and USA; funded 7th EU program*)
4. Norwegian and Russian Upper Atmosphere Co-operation On Svalbard (NORUSCA) (*grant of Research Council of Norway*), 2007-2013
5. Network for Ground Based Optical Research in the Arctic Region (NORDAUROPT) (*grant of Nordic Council of Ministers, Denmark; participants – observatories in Sweden, Finland, Russia, Norway*), 2006-2011
6. The international magnetometric data base – IMAGE (permanently), Norway

Murmansk sea biology institute of Kola scientific centre Russian academy of sciences, <http://www.mmbi.info/>, **Murmansk**

6 international projects and expeditions

1. **Project EC FP7 "GreenSeas".**
2. **Project «Oceanographic and biological databases in the estimation of modern climatic processes» «Integrated studies of Spitsbergen nature and offshore»**



Expeditions of
Murmansk Marine
Biology Institute
in 2013



The projects of GEF and UNDP in Russian Arctic after IPY

expanded the range and quantity of the Arctic GEF projects in Russia



Strengthening of marine and coastal protected areas of Russia in 2009 – 2013

Demonstrating sustainable conservation of biological diversity in four of conservation of biodiversity of Kamchatka salmon and their sustainable use

Strengthening the system of protected areas of the Komi Republic to conserve virgin forest

The conservation and sustainable use of biodiversity on the territory of the Taimyr peninsula, Russia

Conservation of biodiversity in policies and programmes of development of the energy sector of Russia, arctic regions - Nenetsky a.o. and Yakutiya (\$39 mln !)

Strategic action plan for the environment protection in the Arctic zone of the Russia a.o.



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Pan Eurasian EXperiment (PEEX)

Leader: The Finnish Meteorological Institute, co-operation – Finland, Russia, China, 2013–2033. Last meeting – March 2014, Sankt-Petersburg



<http://en.ilmatieteenlaitos.fi/scientific-themes>

The interdisciplinary program
environmental studies
and climate of the Arctic and taiga
regions of Northern Eurasia



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Institute of geography, Russian academy of sciences,
<http://www.igras.ru/>

1. Radar studies on glaciers of Svalbard (Spain)
2. Core drilling of Arctic glaciers (Byrd Polar Research Center, Ohio, USA)
3. International research program in Northern Eurasia (NEESPI).
«Research of processes in cold regions»
4. The project "Global land ice measurement from space (GLIMS)" (U.S. geological survey and the national data center, snow and ice, Boulder)
5. Russian-German project on the preparation of the nomination a UNESCO world heritage site «Nature Reserve Magadansky»
6. Initial occupation of the Arctic by ancient human under changing climatic conditions

The national park “The Russian Arctic”

<http://www.rus-arc.ru/ru/AboutPark/Partners>

AECO – Association of Arctic Expedition Cruise, Norway

<http://www.aeco.no/>

MEMBER CATEGORIES

Full members, Category A are expedition cruise operators with operation within AECO’s core areas, presently Svalbard, Jan Mayen, Greenland, Arctic Canada and the national park “Russian Arctic”.

Full members, Category B are conventional cruise operators with operation within AECO’s core areas, presently Svalbard, Jan Mayen, Greenland, Arctic Canada and the national park “Russian Arctic”.

Full members, Category C are operators of cruise trips without lodging (day-trips) within AECO’s core areas, presently Svalbard, Jan Mayen, Greenland, Arctic Canada and the national park “Russian Arctic”.

A new algorithm of international scientific co-operation in the Russian Arctic

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The example of Norway - the research strategy in the Arctic:

Forskning. nord - 2011-2016

Polarforskningpolicy Norskpolarforskning for 2010 – 2013

Fund of the Ministry of foreign affairs of Norway supports scientific projects on the Arctic topics (programs):

1. **NORRUS** (Russland og nordområdene/Arktis) - the study of Russian society, politics, business and international relations in the Arctic.
2. **Fund Barents 2020** and other - academic activity in the Arctic, on the theme «Technology of offshore oil and gas fields» (cooperation between Russian oil and gas University and the University of Stavanger)
3. **The monitoring programme** - for marine areas BarentsWatch, space monitoring of Svalbard SIOS (Svalbard Integrated Arctic Earth Observing System)
4. **The centre FRAM** - centre for interdisciplinary studies (2010) in the sphere of climate change and the environment in which participate more than 500 scientists from 20 research centers
5. **POLARPROG** (Polarforskningsprogrammet)- with priority to projects on Spitsbergen (annual budget of 45 million).
6. **NORDSATS** (ForskningsløftNord) Program - funding research activities of organizations of Northern Norway, with the aim of strengthening ties between business and research institutions of the region (2013 - 5 projects in various fields: materials and construction technologies in cold climates, a development of tourism in Northern regions, satellite observation of the Arctic and others.
7. **ARKTEK** - the program of development of infrastructure of oil and gas industry (6 projects).

Peculiarities of the modern period - the lag of Russia in all directions of Arctic research



In the early 21st century Russia has **lost its leadership in many areas of scientific research**, particularly in:

- exploration of the Arctic shelf,
- assessment of climate change,
- identifying regularities of dynamics of Arctic natural and social systems.

(from an analytical overview, prepared for the Commission on the Arctic and Antarctic, Federal council of Russia)



*“Professor Molchanov”
“Academik Fedorov”30*

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Modern problems of international scientific initiatives in the Russian Arctic

1. The absence of strategic planning for international scientific co-operation in Russian Arctic (in Russia, the Arctic Council, the IASC a.o.)
2. The research priorities of Russia and the international community are not the same
3. Relatively international scientific programs and projects with the circumpolar nature and focused on creation of international databases
4. Problems of development of the Arctic overly politicised, unreasonably lot to say about territorial issues
5. There are difficulties in visiting some of the territories and water areas of the Russian Arctic, with the edge of the status and restrictions for foreigners
6. The weak development of transport and infrastructure and the high cost of the ice, sea, river and air transport
7. Duplication of research
8. The absence of international pan-Arctic agreement on research in the Arctic
9. The weak development of network of scientific stations
10. Some restrictions on the scientific initiatives of the non-Arctic States

A brief evaluation of the modern theme and level of co-operation

I've received questionnaire in about 40 academic institutions and some sectoral institutions to participate in international projects in the Russian Arctic. Responded more than 20 institutes, mainly in the Northern regions of Karelia, Murmansk oblast, Arkhangelsk oblast, the Komi Republic, Krasnoyarsk territory, Yakutia, Magadan region, St. Petersburg, Moscow and other. It is revealed, that in cooperation involve everybody Arctic States, as well as Japan, China, South Korea, Germany, France, Spain, and others almost 20 countries.

The most active cooperation perform Norway, Finland, USA, Germany. Among international institutions Global environment facility and the United Nations Program on environment.

According to our preliminary estimates in the years after the International polar year in the Russian Arctic were sold at least 150-200 international projects and programs, operated annually up to 30 joint expeditions and stationary works, worked international teams at polar stations, centers of observations and experimental polygons.

But, unfortunately, international cooperation in the Russian Arctic are declining. It is not adequate to the task of studying the Arctic and the need to work together to solve problems of development of the circumpolar region and the protection of its environment.

A new algorithm of international scientific co-operation in the Russian Arctic

Clarification of the pan-Arctic and national priorities and implement them into the international scientific initiatives, including through a special pan-Arctic agreement on scientific cooperation.

The development and adoption of national strategy of cooperation in polar research, preventive against mega-projects development of the resources of the Arctic and Northern sea route

A generalization of the international experience and the results of Arctic studies, publication of informational and analytical materials.

Wider involvement in research universities, first of all Arctic University in Archangelsk, North-Eastern Federal University in Yakutsk. Expand the training of young specialists and international exchange students

The creation in Russia of the interdepartmental working group on the Arctic research at the Ministry of education and science of Russia for the coordination and support of international studies, opening of special programs of the international contests and grants.

To support the initiative to hold Polar decade to strengthen vector of international cooperation.

Attracting businesses, transnational and national corporations operating in the Arctic to support scientific research, including international. To offer corporations operating in the Arctic regions, the creation of special funds

Organization of a special conference (or session in the framework of the ongoing meetings of the IASC, Arctic Council) for the preparation of the program of international scientific cooperation and priorities specification

To make an international meeting of young Arctic researchers participating in international projects in the Russian Arctic permanent

**There are many positive examples of scientific cooperation in the Russian Arctic.
All this is necessary to maintain and develop.
Thank you for your attention!**



**Kazan' Uni and Wegener
Institute co-operation**



Samoilov island



Tiksi



Universities

ASSW-ISIRA, April 7 2014



BORNEO station